

[0009] Ordinary oxygen does not react well with most molecules, but it can be “activated” by the addition of energy (naturally or artificially derived; electrical, thermal, photochemical or nuclear), and transformed into reactive oxygen species (ROS). Transformation of oxygen into a reactive state from the addition of a single electron is called reduction (Eqn. 1). The donor molecule that gave up the electron is oxidized. The result of this monovalent reduction of triplet oxygen is superoxide, $O_2^{\bullet -}$. It is both a radical (\bullet , dot sign) and an anion (charge of -1). Other reactive oxygen species known to be created with NTP, are noted below: (On the Ionization of Air for Removal of Noxious Effluvia [Air Ionization of Indoor Environments for Control of Volatile and Particulate Contaminants with Nonthermal Plasmas Generated by Dielectric-Barrier Discharge] Dr. Stacy L. Daniels, IEEE Transactions on Plasma Science, Vol. 30, No. 4, August 2002):

